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NESTING HABITS OF THE NIGHTHAWK AT TACOMA,
WASH.

BY J. HOOPER BOWLES

At about 7.30 p. m. on June 22, 1919, a friend asked me to come and see a young owl that was perched on the roof of a nearby house in Tacoma, Wash. Hurrying down I saw a bird sitting perfectly upright on the ridgepole, which certainly looked very much like a fluffy young Screech Owl. I suggested that we watch it for a while as it looked suspicious. To make a long story short, about an hour and a half later it suddenly collapsed to about a third of its former size, gave a screech and sailed off, a very able-bodied adult Nighthawk. This was the first time I had ever seen a bird of this family, resting in any other than a flat position. It at once skimmed over the roof of a neighboring building and mounted above it several hundred feet in the air, when it dropped like a plummet to within a yard of the roof, then sheared off and repeated the act. On the downward swoops it gave the peculiar bellowing note, which has earned it the name of "Bull-bat." This has been attributed to the air blowing into the wide open mouth, but seems really to be due to its passage between the primaries. This performance was the courtship of the male to his mate on the gravel roof. A few days previous my attention was called to a Nighthawk courtship directly over the apartment house in which I live. Consequently, on July 4, 1919, I considered it high time to investigate, as the janitor was cleaning off the roof, and the following observations resulted.

The Nighthawk of Tacoma seems to be intermediate between *Chordeiles virginianus virginianus* and *C. v. hesperis* though probably nearer to the latter.

July 4, 1919. Found a nest on the roof, after bird had been frightened away by a man. The parent was rather wild, staying on the roof of a building opposite. Weather cool, but sun out. Photographs of nest taken, when eggs were two inches apart, as left by bird.

July 6. Visited the Nighthawk nest and found the bird on. She would not let me get nearer than twenty feet before leaving the nest, when she flew to the opposite building as before, remaining there until I left. The eggs today were touching each other when the bird left them.

July 9. Visited the Nighthawk nest and found bird on, but she would not let me get any nearer than last time before leaving. This time she did not fly from the roof of the building, but alighted about seventy-five feet away. Sun shining and exceedingly hot so that I had difficulty in getting onto the roof as I could not touch my hand to it without burning. The eggs were about an inch apart, and I was afraid the heat would roast them. I believe the bird felt the same way about it, as I had no sooner climbed into the hole in the roof than she at once flew to within three feet of the eggs. She hesitated a few seconds and then walked rapidly to them and settled on them, tucking them into place under her with her bill and chin. I waited a few minutes and then made an attempt to photograph her, but she flew at once, alighting on the roof about the same place as before. I at once retired to the hole and she, as quickly, flew back to look after her eggs. This time she dropped about ten feet away from them and the bright sunshine evidently made her sight very imperfect. She walked towards the eggs, but before coming near them turned to one side and settled upon an egg-shaped pebble. She did not discover her mistake until she tried to tuck it in under her, when she promptly left it and started again towards the eggs, only to be again turned aside by another pebble. The same actions were repeated, but the third attempt brought her safely to her eggs which she tucked under her with every evidence of satisfaction. One thing that greatly surprised me was the ease and rapidity with which she walked, which would seem impossible for a bird with such very small and weak feet and legs. She stood high up and walked as rapidly as a pigeon and with much the same gait, although there was no motion of the body as in pigeons. In fact perhaps the action might better be likened to a sandpiper, although she did not lean over as they do.

So far only one bird had been seen, and I was curious to know where her mate keeps himself.

July 11. Visited the Nighthawk nest and found the bird on, but she acted precisely as before alighting at the same spot on the roof. The day was overcast and decidedly cool. I believe this is the reason that the bird did not return to the nest for ten minutes after I retired to the hole in the roof. She finally dropped about five feet from the eggs and stayed there watching for about two minutes, then walked to the eggs and settled upon them, tucking them carefully into place as before. This time she did not stand high as she walked, and her body leaned over precisely like a sandpiper, which she strongly suggested in her action. So far she had uttered no call note of any kind.

July 13. Visited the Nighthawk nest at 11.45 a. m., when I found the female on the nest, as usual. Upon flushing her I found both eggs hatched, but on one of the young the down was not completely dry, and the egg shell was still in the nest. Only a small portion of the other egg shell was in sight and the young bird while completely dry, was for some reason not as lively as the newly hatched one.

The female allowed me to come within six feet of her, which gave me a chance to take her photograph. She then flew about twenty feet and dropped to the roof, fluttering along as I followed her. After photographing the young I took the empty shell out of the nest, which act caused the newly hatched bird to jump out of the nest about an inch. When I stepped back he promptly walked back to the nest again. I was greatly surprised at the strength of this tiny bird, which could not have been out of the egg more than a very few minutes. Its movements were quick and strong, and I was again reminded of a sandpiper. The young had a coat of rather long down. The nest is simply a circle two- and three-quarter inches in diameter, which is scraped clean of pebbles, but it is evidently well recognized as the home site.

The day was bright and sunny, but there was a cool wind blowing strongly, so I did not stay any longer than was necessary to take photographs, as I feared the newly hatched young might possibly become chilled. The older of the two little ones kept up a continuous "peep, peep," but made hardly any movement. The younger one did not make a sound, but showed plenty of action. The eyes of both were open. I know of no family of

land birds in which the newly hatched young at all approach this development, excepting the *Gallinae*.

July 14. Found the bird with her young but she flushed at twenty feet distant. The young had grown astonishingly since yesterday and were a couple of feet from the nest site, sitting side by side. I examined their legs and feet and was surprised to find them large and strongly developed, which accounted for their ability to move about so quickly.

The parent returned to within a few feet of her young very soon after I retired to the hole in the roof. She walked hurriedly to them and settled about an inch away, when they at once ran in under the shelter of her feathers. They made no sound today, even when I handled them, and the parent has never uttered a note in my hearing. The color of the down on the young is a buffy gray, with shadings here and there of lavender brown.

July 15. Today has been extremely hot, the hottest of the season, and I decided not to visit the Nighthawk until evening hoping to see the young fed. While standing below, last evening I saw the female leave the roof and begin feeding at 9.15, so tonight I went up at 9.00 and found her covering her young. They were about twenty feet from the original site and close to a chimney the change very possibly being made for shade, as the heat today up there must have been intolerable to anything but a Nighthawk. I was surprised to find that, in spite of the twilight, she let me come within five feet of her before leaving. She flew about fifteen feet and then lay on the roof with wings outspread and mouth wide open but made no sound whatever. I retired to my hole in the roof and, after about five minutes, was much pleased to see her take wing and commence feeding. This she continued to do for ten minutes, following a circle with a radius of three or four hundred yards, during which time I saw no other bird of this species. The young meanwhile had remained motionless, stretched out perfectly flat, a great stride in intelligence over yesterday when they knew no better than to sit with their heads up. When the female returned she dropped about ten feet from them and watched my hiding place intently for several minutes, then walked directly to her young. As soon as she reached them they began a veritable dance, standing high on their legs and flapping their little

wings as they tried to reach her mouth, their own mouths extended to the utmost. She fed them largely by regurgitation, as might be expected, seeming to favor one more than the other, and putting the food into their mouths very deliberately. After finishing she settled down over them and I awaited further developments. I had almost decided that everything was over for the evening when I heard a familiar screech in the distance and soon another Nighthawk sailed high overhead, circling ever nearer with an occasional screech. It seemed very suspicious, making several feints at alighting before it finally did so about fifteen feet from the female and young. The white patch in the tail and the white throat identified this bird as a male, and I was glad to find that he had not deserted his family, as does his near relative the hummingbird. He stood watchfully for some time and then walked swiftly to his mate, who had not made the least sign of recognition. As he reached her she walked away a couple of feet from the young, who greeted their father literally with open arms. I have never seen a bird of any kind stand as erect as these baby Nighthawks. With their heavy coats of down and waving downy wings they reminded me of a pair of tiny dancing bears, for they were able to stand upright for at least a minute. The male fed them equally and evidently had a considerable supply of food, as he went through the motions of regurgitation frequently. The female had walked around to my side of them and, when he left, she walked at once to the young and covered them. I waited for some time but, as the male did not come back and the female seemed asleep, I concluded that the performance was over.

July 16. I visited the Nighthawks at 7.30 p. m. and found the female covering the young. She is becoming much tamer and let me come within five feet before flushing, dropping to the roof a few feet away with outstretched wings. I lifted one of the young to its feet, when it ran at a good pace for about twenty feet before stopping, standing very upright all the while. The young are now only three days old, but are as active as young quail of the same age, which they resemble very closely. The parent bird made a wise selection when she chose a roof with a wall all around it.

July 17. Visited the Nighthawks at 9.00 a. m. The female acted the same as last night, but, while stretched on the roof after leaving the young, emitted a very faint hiss—the first sound of any kind I have heard from her. I was some time in taking pictures and testing the strength of the young. When trying to run their fastest, they flap their wings, which seems to help them in maintaining a more upright attitude. When I finally retired to the hole in the roof the female at once ran to them, when they sought shelter under her. Although she had been away from them fully as long as when she gathered food in the evening, they made no motions at all as if desiring anything to eat, and evidently did not expect anything. This seems very unusual for young birds. Their sight is good in the daylight. They must run about a good deal at night, as I never know where to find them now, when I go up.

July 18. Visited the Nighthawks at 9.30 p. m. Neither of the parent birds was present and the young were side by side facing in opposite directions, as is always the case with young hummingbirds in the nest. I have been watching for this, because of the close relationship of the two groups, but it has not happened before.

I sat down a short distance away and, after waiting about ten minutes, the male appeared and circled around. At times he came within ten feet, uttering an occasional screech, after which he settled about fifteen feet from the young. Hesitating for a minute, he then walked to within a foot of them and they ran to him as usual, but the manner of feeding was completely changed. The parent crouched flat and opened his mouth wide, while the young stood up and plunged in their heads, rooting around like a couple of little pigs for their food. After the male had left it was some time before the female appeared, and she flew directly to the young without paying any attention to me—I believe she is becoming accustomed to human beings. This time she left promptly after feeding the young, and it was too dark to distinguish whether she fed them in the same manner as the male. Neither parent appeared again for some time, when the male came, and after flying around for inspection as before, dropped to the roof a few feet away and on the opposite side of me from

the young. He then began quacking rapidly, precisely like an immature duck on a small scale, the sound being best spelled "pfat." Between intervals of quacking he would make a sound like the soft twanging of a bowstring, which he would repeat a number of times. The female joined him before long and, after waiting some minutes without results, I left them as it was getting late.

July 21. The primary pin-feathers of the young Nighthawks are about a quarter of an inch long. The birds are now eight days old, so their growth seems exceedingly slow for a small bird. The female flew around a little and then perched on a ridgepole in the same position as the male described in the first part of this article. The female has become so tame that I almost have to touch her before she will leave, and I have photographed her at a distance of three feet.

Ever since they were first hatched the color and actions of the young have been so similar to young quail, or grouse, that a few feet away it would have been difficult to distinguish a mixed lot. To be sure, the young Nighthawks do not pick food off the ground.

July 22. Visited the Nighthawks a little before dusk and found neither parent bird at hand, the young being at least seventy-five feet from where they were yesterday. I sat down against a chimney close to them and the female soon came, dropping to the roof about twenty feet away. She has grown so accustomed to me that evidently I am part of her daily routine, so she walked promptly to the young and fed them. This was done in a still different manner than before, as she at once thrust her beak far down their throats and fed them with the same violent pumping motion that is so familiar in the hummingbirds. After feeding both young in this manner, she settled down and allowed them to forage for remnants in her wide open mouth. After they had finished they crept in under her. The male came shortly after this, but he would not go to them while I was in sight. He is tamer than before, flying slowly within four or five feet of me and dropping to the roof only fifteen or twenty feet away, where he quacks.

July 24. Visited the Nighthawks in the morning this time, the weather being sunny and cool. The female is so tame that she

is hardly interesting. When I make her get off the young she simply squats on the roof a few feet away and dozes until I leave. The young exhibit an astonishing feather growth, as rapid as it seemed slow at first. Many of the smaller feathers on the wings look fully developed, where there seemed no sign of them on the 21st. I photographed them, but both young and adult are so exactly the color of the gravel that it is difficult to distinguish them. For several days now the young have been facing in opposite directions, side by side, as is the case with young humming-birds. One of them always has most of his body in plain sight, only his head being under the old bird. A most comical reminder of the fabled ostrich, who puts his head in the sand and believes himself completely hidden.

July 26. Visited the Nighthawks about 10 a. m. and found both young squatting together about a foot from the female; they were not facing in opposite directions today.

July 28. Visited the Nighthawks about 11.15 a. m., the weather is sunny, but not very hot. All three birds were in the same position as on the 26th, and I photographed the group at a three foot range. The young are getting well feathered and look more than ever like quail or grouse, and they can certainly run fully as fast, if not faster. When running fast they spread the wings occasionally, as when a day or two old, but do not flap, seeming to anticipate the aeroplane results that will come when they get a little older. The female parent is as tame as an old hen, and not nearly as fussy.

July 29. Visited the Nighthawks with Mr. Kitchin at 8.45 p. m. The two young were sitting close together, facing in the same direction, but neither parent was present. We sat down about twenty feet away, with our backs against a chimney, and awaited further results. It was some fifteen minutes before either parent appeared, during which time a flock of nineteen Purple Martins flew over "chirruping" lustily. This is much too early for them to be migrating, so we decided that they must be three or four families of young being taught to catch food by their parents.

The first Nighthawk to appear was the male, who flew close to us, but did not stop and did not appear again. Shortly after-

ward the female came and fed the least developed of the young, which I suppose is the younger of the two. Both young ran to her to be fed and, when she left, remained in a standing position. We walked up to examine them, when, to our astonishment, the older one rose in the air and flew over the edge of the roof. Naturally he seemed rather uncertain of his ability, for there is hardly a doubt that this was the first flight he ever made. I am positive that he was quite unable to fly yesterday. We peered over the edge of the roof and were again surprised to see him perched on a six inch railing about ten feet down—he surely must have circled in the air and come back in order to reach this. It seemed as if the parents would have a hard time finding him, and we felt that our prospects were cut in two, but we sat down again to watch and try to make the best of an unfortunate mistake. After about twenty minutes the female returned to the roof close to us and stood bobbing her head up and down, evidently being at once aware of the fact that there was one baby missing. The remaining young one never moved a muscle, a remarkable contrast to the usual antics when the parent comes with food, and it was evident that he either had not been given the signal to move, or else that he also felt that all was not right. Presently the female rose and circled low around the building, returning to the middle of the roof. She had scarcely alighted when the missing baby flew up over the edge of the roof and landed in almost the same spot where we found him in the early evening. If we were astonished at his first flight, we were dumbfounded at this. Never before had we seen anything to approach such intelligence in such a very young bird. It could hardly have been a mere accident, and I was at once reminded of the way one of the young had hopped in and out of the nesting place on the day it was hatched. As soon as he had alighted a signal was evidently given, and both young promptly flew to the parent and were fed, the younger one being scarcely able to raise himself off the roof. The feeding tonight was done, as for some days now, by the parent holding its beak far down the throat of the young and pumping violently.

It is most interesting to note the size and color of the young birds. The older one is as brown as a young grouse, while the younger is a pale gray. They are about two-thirds as large as

the adults, being just about the size of a Poor-will (*Phalaenoptilus*). The feathers of the primaries are not as long as they will be, but, otherwise, the older of the two seems to be a perfectly proportioned miniature of an adult bird though the coloring is different. They are very much stronger on their legs than the adults, and I wonder at what stage this agility begins to diminish.

July 30. Visited the Nighthawks at 11.30 a. m., the weather being cool and moderately sunny. Neither parent was present, or came in sight while I was there. Both young were side by side, facing the same way, and I took good care not to disturb them.

August 1. Visited the Nighthawks at about noon and found the female sitting between them, with a wing spread over each. The weather was warm and overcast, so I could see no reason for this protection. For some time they have had none of this protection on my visits, even when the weather was decidedly cool.

August 2. At noon today the Nighthawks were in the same position as yesterday, although there seemed no reason for it.

August 3. This morning I found the female sheltering only the younger of her babies, the older one having disappeared. This remaining youngster is fully feathered now, excepting for his short primaries and tail-feathers and is a beautiful little bird. Reddish brown, with broad smears of lavender and silver gray here and there in his plumage. About two-thirds the size of the adult, he reminds me more than ever of a Poor-will. If I had been hunting in the country and collected these two young birds I should have believed I had discovered a new species.

After considerable search I made out the absent young one on a neighboring roof, apparently perfectly at his ease. It is rather surprising that he stayed at home as long as he did.

Went up in the afternoon and found the home young one alone. Took his picture at two and a half feet range. Could see nothing of the other young one on the opposite roof. He is three weeks old today.

Went up in the evening at 8.15 and the home young one was alone, so I sat down to wait. For a while he was absolutely motionless; a Martin flying overhead chattering did not move him a particle. Then a Nighthawk passed over, high up, when he at once showed that he was not asleep, and how keen his eye-

sight was, by promptly looking up. A short time after this he commenced a series of gapings, which ended by his disgorging a large pellet, exactly in the manner of an owl. The light was beginning to fail now and he seemed more lively, stretching his wings and preening himself vigorously all over. He then walked away about ten feet and I went over to get the pellet, as I feared to lose it in the darkness. While I was looking it over the little bird took wing, circling some distance away from the house, but swinging around and alighting at the further end of the roof, some seventy-five feet away. I at once returned to my seat, and the small bird was almost equally prompt in flying back to the home roost. At three minutes of nine the female came and gave a very hurried feeding, followed about five minutes afterward by the male, who did likewise. It is the only time the male has dared to feed the young when I was close by and I doubt if he saw me this time, although very near. The young bird became very lively after this, taking numerous short flights, at one time going clear away from the building. However, he always returned to the home roost in the course of time, but every time I thought he must surely lose his bearings. It certainly is astonishing that such very young birds can have so much sagacity.

The manner of walking is now completely changed, the position of the body being horizontal instead of upright. This is, of course, owing to the long wing feathers making an upright position impossible. For the same reason, doubtless, the walking is much more labored and awkward, being almost exactly like that of the adult. Evidently this is the transition stage, where the feet and legs begin to lose their strength from lack of use, wing power being resorted to almost altogether. The female fed him once after this, when I left on account of darkness.

A close examination of the pellet disgorged by the young bird showed it to be nearly three-quarters of an inch long, by about a half an inch through. The contents consisted of the legs and other portions of soft insects and beetles, and ten pieces of clam shell. One of these pieces of shell was five-eighths of an inch long, which seemed a most formidable object to feed to a baby. Small wonder that it failed to prove digestible, making the disgorging of the pellet necessary.

August 4. Visited the Nighthawks this afternoon, when there was a slight rain. The female was beside the young one close to the wall, her feathers on one side up over him. He has certainly grown since yesterday and looks fully three-quarters as large as the old one. While I stood watching them he walked around in front of his mother and crawled in under her headfirst, boosting her clear over onto one side and leaving the greater part of him sticking out in front. It was a most amusing sight. He evidently did not figure that he had grown since his downy stage when he, the weaker of the two young, was always the one to be found with his head covered up. He is anything but a weakling now, but it is easy to see that he is still "the baby" of the family. How true the old saying is that, "One touch of nature makes the whole world kin."

August 5. Found the female sheltering the young bird today.

August 6. Found the young bird alone today, but both parents were flying around in the vicinity, although it was hot and the sun was shining brightly. They seemed to be gathering food and were as quick and certain in their movements as they are at dusk. This is the first time I have seen them hunting in the vicinity of the nest, as before this they must have gone a very considerable distance in order to get the kind of food required.

August 10. The young Nighthawk has been alone at all my visits during the day ever since August 6th. This evening I kept watch from the opposite sidewalk and about half past eight both parent birds appeared, repeatedly swooping down close to the roof and up again, as if trying to make the young bird join them. The female fed it but once, the male not at all. The male did a great deal of screaming, which is unusual of late, and at times swooped down past the female with the harsh "swuak" that very evidently took the place of singing during courtship. Occasionally the two adults joined by a Nighthawk with much shorter wings than I believe was, beyond a doubt, the other young bird. In direct flight he could do nearly as well as the old birds, but he fluttered considerably when making sharp angles and curves.

The performance on the roof looked interesting, so I went up at about 9 o'clock and nearly stepped on the young one as he was on the other side of the roof from the usual place. I sat down to

watch and both parents came, one at a time, and fluttered over him in a fruitless effort to make him join them. They would not feed him at all, but the most he would do was to flap along the roof. Finally they disappeared and the youngster, after waiting a while, took a long flight on his own account. He stayed away for at least a minute, and shortly afterward repeated the act, but I could not make out where he went, as it was getting dark and he did not fly above the skyline. While he was away the second time the male dropped to the roof very close to me and quacked a few times, which I think is a note of caution, but he soon stopped as he was not at all afraid of me now. The young bird soon flew past and dropped over in his regular place, when the male uttered a few times the soft note like a twanging string. After this, as far as I could tell, everything settled down for the night.

August 14. The young Nighthawk was a month (31 days) old yesterday. He was on the same place on the roof both yesterday and today, alone, as has been the case for some time. He was very wide awake and did not seem at all afraid of me, doubtless considering me a natural event in life. I wished to see how readily he would walk, or run, so approached within two feet, at which he stood up and gave a protesting screech. He did not attempt to walk, and I went no nearer as I feared he might fly and not return, which would spoil my study of how long he would stick to his home under normal conditions. Evidently the instinct to run, as a means of escape, is lost very soon after the power of flight is attained. The screech that he gave was very satisfactory as it proved that he was a male, as his gray plumage has led me to suspect.

August 17. The young Nighthawk was still on the roof, alone and in the same place.

August 18. Went on the roof today in the early evening and found no Nighthawks in sight anywhere. It seems probable that the young bird left last night, which would make him thirty-five days old at leaving the home roof.

I searched carefully for more ejected pellets, but found only one. This was exactly like the other and, although I have kept it unbroken, numerous bits of clam shell in it give evidence that the contents of both are much the same. It really begins to look

as if pieces of clam shell were given the young bird for medical purposes.

In summing up the above notes a few interesting contrasts and similarities may be drawn between the Nighthawks and some of their nearest relatives. The young resemble hummingbirds in their characteristics more closely than any other family, although differing widely in some ways. First, there are always two of them; second, excepting for a very short period, they are always fed by regurgitation, the food being violently pumped into them; third, for a very considerable period of time they sit side by side, facing in opposite directions, which is always the habit of young hummingbirds in their nest.

On the other hand the hummingbirds are born blind and absolutely helpless, so I think the most unexpected thing to me about the young Nighthawks was their strength, keen eyesight, and quick-wittedness as soon as hatched. In this respect, with the addition of the heavy coat of down, they are utterly unlike any of their near relatives with which I am acquainted. This applies especially to young woodpeckers, which are blind, entirely naked, and utterly helpless for several days after hatching.

Their actions and general resemblance, until their primaries began to lengthen, were so strongly suggestive of an abnormally smart young grouse that we must wonder what manner of birds their remote ancestors could have been. What could have happened in those early days to have transformed them, from sturdy legged runners, into one of the most graceful and spectacular of our flying birds. This transformation, as the young develop, is so sudden and complete that to the student of evolution it is the most interesting feature of all. The adult bird, although stronger on its legs than we might think, would be unable to keep pace for two seconds with a young one a week old.

From the actions of these two young ones, I believe that as a rule Nighthawks can fly about and gather food for themselves at the age of about one month, hardly any sooner, in spite of the fact that they can fly fairly well some days earlier. Although the last bird was thirty-four days old before he left the roof for good, there is no doubt that he was what, in human beings, would be called badly spoiled. He could fly perfectly well, but simply

would not work for his food so long as his parents would go and bring it to him. The first young one was only twenty-one days old when it left the home roof for good, although it could hardly have fed itself for some time afterwards.

Judging from the fact that one young bird was brown, I believe it was a female, while the one that was mostly gray I believe was certainly a male on account of his screech.

The call notes were very interesting, although the female made no sound beyond an occasional faint hiss. The quacking of the male is undoubtedly a warning call. I could not decide upon any meaning for his soft, bow-string note, but it was very musical and quite unlike anything that would be expected from a Night-hawk. The repetition of the courtship flight and song of the male to the female, when both old and young were flying together high in air, was surprising and interesting. His singing had stopped almost altogether after the eggs were laid, and during courtship I never saw the song flight when the female was in the air. The young at first have a faint chicken-like "peep," but discontinue it at a very early age and are very quiet.

I believe the food given the young must consist of soft insects, for the most part, as a careful examination of a large number of droppings revealed no signs of hard wing-cases or beetles. Neither were there any bits of clam shell, so it is possible that clam shell may be given to make the young disgorge the pieces of beetle found with it in the pellet.

The Woodstock, Tacoma, Wash.

THE HISTORY AND PURPOSES OF BIRD BANDING.

BY FREDERICK C. LINCOLN

The entrance of the Bureau of Biological Survey, United States Department of Agriculture, into the field of bird banding will be viewed with interest by the students of this method of ornithological research. In the present paper the author endeavors to present a brief review of the subject from the historical aspect and to outline the problems that it is hoped will be solved by this method of investigation.